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Economic Crises, High Public Pension Spending and Blame-avoidance Strategies

Pension Policy Retrenchments in
14 Social-insurance Countries, 1981–2005

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Juan J. Fernandez is a postdoctoral fellow at the Max Planck Institute for the Study of Societies, Cologne.

fernandez@mpifg.de

Max-Planck-Institut für Gesellschaftsforschung
Max Planck Institute for the Study of Societies
Paulstr. 3 | 50676 Cologne | Germany

Tel. +49 221 2767-0
Fax +49 221 2767-555

www.mpifg.de
info@mpifg.de

Abstract

This paper examines the determinants of the timing of public pension policy retrenchments in 14 affluent democracies. Available research does not satisfactorily capture the multidimensionality of these legislative events, because it relies on indicators of pension policy provisions for current pensioners even though recent retrenchment pension reforms have been characterized by phased-in or grandfathering measures. Instead, this paper identifies these events by considering the individual long-term implications of each pension reform passed in 14 OECD social-insurance countries between 1981 and 2005. Based on a synthetic review of the pension policy literature, data from financial projections, and principles from the economics of welfare programs, I identify 62 pension retrenchments passed in these countries. My argument is that macroeconomic conditions, the size of the public pension system, and the stage in the electoral cycle shape the likelihood of pension retrenchments. Results obtained from conditional frailty models for recurrent and sequential events support this argument. The interval between pension retrenchments is shorter in countries with low economic growth and high public pension spending, as well as in countries in a post-election year.

Zusammenfassung

Dieses Papier betrachtet die zeitlichen Muster von Rentenkürzungen und deren Determinanten in wohlhabenden Demokratien. Die derzeitige Forschung berücksichtigt die Multidimensionalität dieser legislativen Maßnahmen nur unzureichend, da sie sich auf die Indikatoren für die aktuelle Rentnerpopulation konzentriert, obwohl diese in Zusammenhang mit bereits eingeleiteten oder früheren gesetzlichen Maßnahmen stehen. Die vorliegende Studie hingegen bezieht die Langzeitfolgen der Rentenreformen und deren Entwicklung in vierzehn OECD Ländern im Zeitraum von 1981 bis 2005 in die Analyse ein. Auf der Grundlage einer zusammenfassenden Bestandsaufnahme der Literatur zur Rentenpolitik, von Daten aus finanziellen Hochrechnungen sowie der ökonomischen Prinzipien von Wohlfahrtsprogrammen werden in diesen Ländern zunächst insgesamt 62 Rentenkürzungsmaßnahmen identifiziert. Zur Erklärung der zeitlichen Abfolge der Maßnahmen werden die makroökonomischen Bedingungen, die Größe des Rentensystems sowie die Zeitpunkte der Anpassungen im Wahlzyklus herangezogen. Die unter Anwendung konditionaler Frailty-Modelle erzielten Resultate stützen das Argument, dass die häufigsten Rentenkürzungen sich in Ländern im Jahr nach der Wahl sowie in Ländern mit geringem Wirtschaftswachstum und hohen Rentenausgaben finden.

Contents

How can we account for the numerous retrenchments of public pension generosity in affluent democracies? Since the early 1980s, public pension policy has been one of the most persistent issues at the top of the reform agenda in all affluent democracies. As a result, many pension reforms have been enacted, with one main objective. During this period pension policymaking aimed primarily to decelerate pension spending growth and strengthen the finances of these programs by retrenching the duration and/or the value of pension entitlements (Arza/Kholi 2008: 4; GAO 2005: 3; Kalisch/Aman 1998: 24; OECD 1998: 52; Pierson 2001a: 427). This "downward drifting trend" in pension generosity (Myles/Quadagno 1997: 246) is commonly explained in terms of concerns about the fiscal impact of population aging. According to this view, policymakers recognized the expansionary impact of the demographic transition on pension policy costs (Immergut/Anderson 2007: 17, 38; Schludi 2005) and reacted by making cutbacks to strengthen the long-term financial health of these programs (Castles 2004: 131; Hicks/Zorn 2005: 626; Hinrichs 2002: 157; Lindert 2004: 203). However, population aging may also undermine the chances of pension retrenchments due to the increasing political leverage obtained by the elderly (for a review, see Fernandez 2011). Furthermore, quantitative research has still not provided solid evidence of a positive relationship between population aging and reductions in pension generosity in affluent democracies. Therefore, the focus on demographic pressures may be hampering our attention to more relevant factors.

Previous quantitative research has not satisfactorily determined the causes of pension policy retrenchments in affluent democracies because it employs indicators that cannot adequately identify these legislative events. Previous studies have relied primarily on evidence based on aggregate spending data and synthetic replacement rates (Hicks/Freeman 2009: 131; Kittel/Obinger 2002: 18; Tepe/Vanhuysse 2009: 7–9), which fail to reflect the wide diversity of measures used to retrench pension generosity during the previous three decades. Most importantly, these are retrospective indicators that capture only changes for ongoing beneficiaries. Consequently, they discount changes in pension calculation and eligibility rules for prospective beneficiaries, which have constituted central measures of recent pension reforms (Hinrichs 2007: 171; Myles/Pierson 2001: 331; Weaver 1998: 214–215). In contrast, a forward-looking approach, which examines the likely consequences of each reform, can be sensitive to changes in all pension policy dimensions (Pierson 2001a: 421). It allows us to identify and classify all pension reforms according to their impact on individual generosity.

This paper follows this forward-looking approach by examining the determinants of the time that elapses between pension reforms that retrench generosity levels for ongo-

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ing and/or prospective beneficiaries in 14 social-insurance pension systems during the 1981–2005 period.[1] Based on a synthetic review of the pension policy literature, I identified that these 14 countries passed 62 pension retrenchments during this period. This review indicates that the contemporary transformation of public pension programs involves a series of recurrent legislative events. In Germany, for instance, the reforms included an indexation freeze (1982), a less generous pension calculation formula (1983), deductions for early retirement (1989), an increase in the standard retirement age for the long-term unemployed (1996), a temporary reliance on price indexation (1999), the reduction of the accrual rate (2001), and the incorporation of a demographic factor in the calculation formula (2004). Given this complex structure of the data, the appropriate analytical strategy consists of conditional frailty models for repeated and sequential events (Box-Steffensmeier/De Boef/Joyce 2007), which reveal the forces shaping the interval elapsed between one pension retrenchment and the next, while controlling for event dependence and unit heterogeneity.

My argument involves both the forces driving the reconsideration of pension retrenchments and the political conditions that make these reforms possible. First, economic crises and high public pension spending affect these reforms by bringing the pension policy issue back onto the government reform agenda. On the one hand, economic crises enhance the financial strain of paygo (pay-as-you-go) pension programs, threatening their long-term sustainability and worsening the balance of the state budget. On the other hand, there have been increasing concerns that, via generous early retirement provisions and high social security contributions, large public pension systems may hinder the expansion of the labor force.

Furthermore, policymakers ultimately enact these reform projects because they can minimize the political costs associated with these unpopular changes through the strategic consideration of the electoral calendar. Since voters tend to be less heavily influenced by events that occurred years ago and early on in the electoral cycle (Bartels 2008: 99–104; Fair 1996: 125), policymakers can expect to suffer less political retribution by enacting the pension retrenchment immediately after elections. Therefore, policymakers have an incentive to enact these reforms in the post-election year.

Supporting this account, the results from the event history analysis indicate that low economic growth, the level of public pension spending, and the stage in the electoral cycle are the most robust determinants of the hazard of pension retrenchments. Low economic growth and high public pension spending shorten the interval between all forms of pension retrenchment, as well as retrenchment pension reforms with and without expansionary measures. In addition, in the year immediately after an election there is a higher likelihood of all forms of pension retrenchment and pension retrenchments without expansionary measures. In contrast, the generalized explanation that pension

1 The countries are Austria, Belgium, Canada, Finland, France, Germany, Greece, Italy, Japan, Norway, Portugal, Spain, Sweden, and the United States.

retrenchments have been fundamentally affected by the degree of population aging finds only weak support in the analysis. Higher projected population aging shortens the interval between retrenchments without expansionary provisions. But neither current nor projected population aging shapes the interval between all forms of pension retrenchment and the interval between net retrenchments with expansionary provisions.

The analysis is structured as follows. Section 1 describes the importance of retrenchments in contemporary pension policymaking. Section 2 discusses the main explanations for the enactment of these reforms. Section 3 identifies the limitations of previous operationalizations of retrenchments, and Section 4 details the construction of the alternative dependent variables. Section 5 discusses the independent variables and the analytical approach. Sections 6 and 7 present descriptive statistics of the dependent variables, together with the results of the multivariate analysis. Finally, Section 8 summarizes the main findings and discusses their theoretical implications.

1 The advent of the pension retrenchment era

Since the early 1980s, in all affluent democracies, pension programs have been the subject of many reforms. During the past three decades, these reforms have pursued diverse objectives, including the elimination of regressive and inequitable elements (Levy 1999: 265), organizational redesigns (Palier/Martin 2008: 14–15), and even improvements in coverage (Bonoli 2000: 35). However, during this period cost-cutting goals have prevailed over all other objectives. Cross-national reviews indicate that, since 1980, pension reforms have chiefly sought to obtain savings in public pension spending (GAO 2005: 3; Kalisch/Aman 1998: 24; Lindbeck 2003: 51; OECD 1998: 52). As Pierson notes, "in the case of health and pensions, … cost containment is *the* issue in most countries" (2001a: 427) (italics in original).

In light of recent reviews, the main pension policy measures passed since 1980 have involved increases in the minimum and standard pensionable age, restrictions on early retirement pension benefits, expansion of the reference period for calculation purposes, changes from flat-rate to means-tested benefits, the adoption of less generous indexation mechanisms, the harmonization of rules affecting public sector and private sector employees, and increases in caregiver credits. Of these measures, only the last can be expected to have expansionary outcomes. All the others have been introduced to reduce pension spending by retrenching coverage and benefit levels (Gern 2002: 445–447; Gillion 2000: 583–597; Hinrichs 2007: 161–167; Weaver 1998: 200–209).

Supporting the claim that pension policymaking has entered into a distinct retrenchment era, a recent OECD (2007: 63–65) study demonstrates that, as a result of the reforms passed during the 1990s, projected pension replacement rates are expected to fall

substantially in 13 out of the 16 countries under consideration (see also McHale 1999: 31). Thus, the two defining features of pension policymaking during the post-oil crisis era have been cost-cutting goals and the enactment of cutbacks in program generosity.[2] Responding to the fact that generosity retrenchments have been a critical – albeit not the only – development in the pension policy arena since the early 1980s, the rest of the paper focuses on the forces shaping these policy events.

2 Theoretical background

Regarding the causes of pension reform, most analysts concur that the institutional, demographic, and economic conditions of the post-oil crisis period have brought about a dramatic transformation in the forces driving pension policy change (for reviews, see Green-Pedersen 2002: 44; van Kersbergen 2002: 6). It is widely held that, during the three decades after World War II, pension generosity changes occurred in response to redistributive struggles between social classes and reflected the power of organized labor (Hicks 1999: 242–243; Huber/Stephens 2001: 66–71; Kangas/Palme 2007: 122–126; Myles 1989; Palme 1990). But most analysts now agree that, since the early 1980s, increased satisfaction with mature pension programs has contributed to the deactivation of partisan struggles in this policy field (Huber/Ragin/Stephens 1993; Pierson 1994: 29, 47; 1997: 274–278),[3] while the pressures for reform have instead emanated from adverse current and prospective fiscal scenarios brought about by population aging and dwindling economic growth rates (Goul Andersen 2001: 121–127; Myles 2002: 148–151).

In this regard, scholars usually conceptualize contemporary pension policy reforms as having occurred in two stages. In the *first stage*, exogenous shocks – including population aging, deindustrialization, and low economic growth – force the return of this policy domain to the government reform agenda. After policymakers or cabinet members realize that the situation and prospects of public pension programs constitute a policy problem, they initiate a s*econd stage*. In this stage, the content of the draft bill and its ultimate enactment depend on the strategies and capacity of policymakers to diffuse short- and medium-term opposition to the policy changes (Immergut/Anderson 2007: 38; Schludi 2005: 245). This section discusses dominant accounts of the first economic stage before reviewing the dynamics in the second stage.

2 Indeed, the topic of retrenchment figures so prominently in academic and policymaking discussions that they have become synonyms for "pension reform" (Arza/Kohli 2008: 4; Starke 2008: 10).

3 Supporting this approach, most large-N studies report a lack of (Huber/Stephens 2001: 217; Kittel/Obinger 2002: 45) or limited (Hicks/Freeman 2009: 135) partisan effects on contemporary pension generosity changes.

Structural conditions and the arrival of the pension issue on the policy agenda

Structural conditions, such as the demographic and fiscal scenarios, have figured prominently in analyses of pension policy reform since the early 1980s. It is commonly suggested that *demographic*, *economic*, and *fiscal pressures* have not only been a source of objective financial strain in pension programs, but also catalysts for the reconsideration of retirement income arrangements. Some analysts have claimed that pension retrenchments responded to these three combined pressures (Immergut/Anderson 2007: 17, 38; Weaver 1998: 196–200), while other analysts have stressed the importance of each of these three dimensions. Yet, according to all of them, structural conditions are critical in understanding these legislative events.

It is justified to open the discussion with the role of *demographic pressures* because they have received particularly intense attention over the past 25 years. Since traditional paygo pension programs consider only past wages – and not life expectancy – for benefit purposes, they are automatically affected by the level of population aging. In countries with paygo programs the continuously increasing proportion of the elderly population necessarily accelerates the growth of public pension program outlays. Furthermore, it is well known that the challenge posed by demographic change varies across affluent democracies and is particularly intense in continental European countries with social insurance systems, where the pace of the transition is faster. As a result, population aging creates pressures to ensure the sustainability of public retirement income provision via changes in pension policy provisions. Given the prominent causal connection between aging and pension spending, most experts believe that the impact of demographic change has been decisive in contemporary pension policy retrenchments. According to this view, policymakers recognized the scope of this challenge and passed or consented to pension generosity cutbacks to decelerate future pension expenditure growth (Hicks 1999: 20; Hicks/Zorn 2005: 656; Lindert 2004: 204; OECD 1998: 51; Schludi 2008: 221; van Kersbergen 2002).[4] In this regard, Castles writes that "the reforms that have been taking place are, of course, substantively motivated by an awareness of the dangers posed by high degrees of benefit generosity in the context of aging populations" (2004: 131).

Economic pressures have also been underlined by pension policy experts, albeit to a lesser extent than demographic pressures. Under this approach, exogenous shocks produced by low economic growth, deindustrialization, and high unemployment affect fiscal balances and induce the reevaluation of retirement income provisions. Cyclical or chronic economic crises worsen the financial health of pension programs and public deficits, which creates a need to rebalance these budgets through changes in social security policy.[5]

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4 For a critical view of this approach, see Scherer (1996) and Myles and Pierson (2001: 308).

5 The concepts of "social security deficit" or "pension program deficit" cannot be generalized to all countries in the sample. The concept is applicable to those systems that were originally de-

Several authors have suggested that the lower economic growth rates since the late 1970s, partially produced by deindustrialization, have made it increasingly difficult to finance expanding welfare costs (Esping-Andersen 1999: 145–146; Pierson 2001b: 86), mainly because they undermine the resources needed to fund welfare programs. Poor economic growth depresses consumption levels, harming consumption tax revenues and making it more difficult to compensate deficits in pension programs through direct state transfers. Low economic growth also stalls the growth of real wages, reducing payroll tax revenues that constitute the leading funding mechanism for public pension provision in these countries. Finally, poor economic growth produces unemployment growth, which can be especially detrimental to the solvency of welfare state programs. On the one hand, unemployment growth reduces the pool of wages that make payroll contributions. On the other hand, unemployment growth boosts pension outlays by shedding older workers from the labor market. For these two reasons, Huber and Stephens argue that "the timing and severity of cuts in welfare state entitlements are primarily driven by unemployment" (2001: 225; also 2006: 124). In sum, because low economic growth and high unemployment exacerbate fiscal strains, they are perceived to provide strong incentives to contain welfare commitments (Myles/Quadagno 1997: 247; Palier/Martin 2008: 12).

Beyond their roots in economic crises, *fiscal pressures* for welfare reform have also emanated from concerns about the negative macroeconomic implications of large public deficits. In this regard, since the mid-1980s there has been an increasing awareness that public deficits expand the public debt, inflation rates, and higher long-term interest rates (Tanzi/Fanizza 1996: 250), while they reduce the room to maneuver for tackling new social risks (Streeck 2007: 34). In response to these concerns, OECD governments have sought to reduce their public deficits through cuts in public spending (Boltho/Glyn 2006: 419; Boltho 1994: 81; Posner/Bovbjerg 1996: 142–143), which may also have affected pension programs. In this connection, Holzman and Hinz write that "pension reforms in most countries of the world are initially driven by short-term budgetary pressures" (2005: 23).

Moreover, these fiscal pressures may have been further reinforced by the process of European economic integration. The convergence criteria for entry to the European Monetary Union posed an extraordinary fiscal challenge for several accession candidates, especially peripheral Continental ones. This exogenous institutional pressure created a premium on large public deficits, forcing these countries to consider drastic measures that might undercut their primary deficits. In this context, due to their sheer size, public pension programs became a prime target of retrenchment reforms (Ferrera 2005: 117;

signed to be self-financing (for example, the US system), so that gaps in revenues must be compensated by transfers from the Treasury. However, in mixed systems, designed to be financed by a combination of social security contributions and income taxes (for example, Canada and Sweden), the difference between outlays and social security contributions cannot be taken as an indication of deficits in the programs.

Pierson 1997: 289; Pitruzzello 1997: 1626–1627). "The *de facto* agenda of Continental welfare states in the 1990s responded to the requirements of fiscal consolidation imposed by the Maastricht criteria" (Scharpf 2000: 116).[6]

The institutional structure of the pension system and the pension policy issue

Although most scholars consider demographic and economic pressures to be the main sources of contemporary pension policy reform, other authors have instead emphasized the influence of the institutional structure of the pension system. To Myles and Pierson, "the key variable shaping broad reform outcomes is the scope, maturity, and design of these paygo pension schemes" (2001: 307). In this regard, since the mid-1980s there have been widespread concerns about the unintended negative consequences of large-scale public pension spending for the expansion of employment levels, which have bolstered pressures for reform in these countries. According to these concerns, a large public pension effort does not help to tackle the chronic problems of high unemployment and low participation rates in many Western European countries due to its association with generous early retirement provisions and high social security contributions.

First, it is widely claimed that public pension systems with large programs have built-in incentives for early retirement. In the late 1970s and early 1980s, several countries introduced or expanded early retirement provisions to cushion the social costs of the post oil-crisis employment declines (Ebbinghaus 2000, 2006). However, even when economic activity recovered, these provisions persisted, encouraging older workers' withdrawal from the labor force, artificially limiting the recovery of pre-oil crisis employment levels (Holzmann 1988: 60; Gruber/Wise 1999: 1).

Moreover, extensive public pension provision demands large social security contributions that are also deemed harmful for the expansion of the labor supply. Many policymakers and analysts concur with Esping-Andersen in arguing that "heavy social contributions and taxes … make the hiring of additional workers prohibitively costly and the labor market inflexible" (1996a: 3, 7; see also Coe 1985; Scharpf 1986; Flora 1985: 27–28). Nevertheless, of all taxes, social security contributions should be particularly detrimental to employment growth. This is because, in low productivity sectors, higher labor costs resulting from higher social security contributions cannot be absorbed by reductions in employees' wages. This makes many companies uncompetitive and increases unemployment among the low-skilled (Kemmerling 2002; Scharpf 1997, 2000: 80–82).

Reflecting the widespread attention paid to the economic impact of pension programs, case studies reveal that, in systems with high social security contributions, such as France, Germany and Sweden, public pension finances have actually been strengthened

6 For a more skeptical view of the role of the EU in welfare policy, see Taylor-Goody (2008).

by reductions in the generosity of the system in order to prevent further erosions of employment levels (Anderson 2005: 99; Conceição-Heldt 2007: 179; Hinrichs 2005: 56). In contrast, countries with moderate social security contribution rates, such as Canada, still had room of maneuver to strengthen public pension finances through payroll tax increases (Béland/Myles 2005: 267). In sum, due to perceptions regarding their unintended macroeconomic consequences, large and mature paygo pension programs may increase the likelihood of pension retrenchments.

The second stage: Blame-avoidance strategies and policy-making with an eye to the electoral cycle

According to the broad consensus in pension politics analysis, when the executive launches a retrenchment project, its eventual outcome is determined by the dynamics of a *second stage*. In this stage, the content of the law and its ultimate enactment hinges upon the strategies and interactions of the government, political parties, and social partners.

This stage has received considerable scholarly attention due to the specific nature of pension retrenchment projects. Following the "new politics" theory (Pierson 1994: 17–19, 1997: 274–278), there is widespread consensus that pension policy retrenchments generate more concentrated losses than wins. This makes these projects perilous political undertakings, so that governments and policymakers strive to minimize the political costs they might incur. In particular, this means that politicians pursue or endorse these reforms only if they can devise cautious strategies to diffuse the political blame (Weaver 1986). Recent scholarship following the "new politics" theory identifies two main blame-avoidance strategies used to prevent the derailment of pension retrenchment projects. First, a concertational policymaking style greatly increases the chances of reform enactment (Hinrichs 2000: 368; Reynaud 2000: 9–10). By incorporating a particular labor union's demands or by building up a broad partisan consensus, governments foster labor's acquiescence to the cutbacks and undercut the possible partisan exploitation of the proposal (Bonoli 2000: 37–38; Natali/Rhodes 2004: 23; Schludi 2005, 2008). Second, long transition periods and grandfather clauses also facilitate the reform process (Pierson 1997: 277). Such clauses lower the visibility of the changes and concentrate the costs on younger adults, who tend to follow pension policy developments less closely (Bonoli/Palier 2008: 37).

Building on this literature, this paper hypothesizes that the strategic consideration of the electoral calendar constitutes another critical blame-avoidance strategy in the politics of pension retrenchment. Initiating the legislative process immediately after elections allows governments to undercut the political costs associated with such reforms. Most importantly, this strategy capitalizes on voters' myopia, or the greater importance attached by voters to recent events rather than events long past. The notion of voter

myopia was introduced by political economists of the "political business cycle approach" (PBC), who argue that voters' short-term memory bias can influence the timing and content of economic policy-making. In particular, the earliest contributions of PBC suggest that politicians exploit their informational asymmetries with voters by artificially stimulating the economy in election years (Nordhaus 1975: 184; Tufte 1978: 9). Politicians are aware of the medium-term economic downturn produced by these temporary expansions of aggregate demand, while voters are only aware of the positive short-term consequences of these measures. Consequently, policymakers can expect to boost their chances of reelection if they engage in fiscal expansion in election years (Persson/Tabellini 1990; Rogoff/Sibert 1988: 4). In support of this expectation, most empirical research shows that, in affluent democracies, public deficits tend to increase in election years (Alesina/Roubini 2000: 207; Mink/Haan 2006: 207; for a review, see Drazen 2000: 96).[7]

The PBC assumption of voter myopia offers a valuable clue for the analysis of retrenchment (blame-avoidance) politics. It suggests a *cognitive mechanism* linking the stage in the electoral cycle and blame-avoidance strategies. Due to this myopia, voters tend to discount past conditions. They give more weight to economic and political events which occurred just before the elections than to events which occurred years before, early in the electoral cycle. This argument is supported by analyses of the relations between economic conditions and voting decisions. Economic conditions in the election year are stronger predictors of the incumbent's electoral performance than economic conditions during the whole term in the US (Bartels 2008: 99–104; Bartles/Zaller 2001: 15; Fair 1996: 126; Hibbs 1987a: 182–183) as well as in other industrial democracies (Hibbs 1987b; Lewis-Beck/Paldam 2000: 115; Nannestad/Paldam 1994: 238). The implication for retrenchment politics is that the possibilities of avoiding political blame vary across the electoral cycle. If reforms are enacted right after a new government comes into office, the risk of an electoral backlash should be smaller than if they are passed closer to the next elections. In other words, due to voter myopia in performance assessment, policymakers act rationally by rolling back pension generosity early on in the electoral cycle.

Together with the cognitive mechanism, there is also an *organizational mechanism* linking the stage in the electoral cycle and blame-avoidance strategies. Because voters rely heavily on media organizations to obtain political information and establish their party and policy preferences, these preferences depend on the coverage of political issues in the mass media. Thus, during election campaigns, when political coverage is intense, voters should have better knowledge of political issues (Gelman/King 1993). However, between elections, when parties do not have to dramatize the differences between their political platforms, the mass media generally reduce their coverage of national politics,

7 Alt and Lassen (2006: 530) only found a political budget cycle in low-transparency affluent democracies, while Shi and Svensson (2006: 1372) found no evidence of it in developed countries.

making it more difficult for voters to identify relevant policy events.[8] Due to this cycle of politicization–depoliticization, policymakers can expect to face less of a popular outcry if they pass pension retrenchments in non-election years.

When considering the enactment of unpopular measures, recently (re)elected governments can also benefit from the legitimacy bestowed by their electoral victory. In this regard, several analysts of neoliberal policymaking have claimed that incoming governments enjoy a "honeymoon period," when governments are better equipped to enact controversial reforms because popular "support is high and opposition is muted" (Haggard/Webb 1993: 159; Williamson/Haggard 1994: 571). In this line of reasoning, other scholars have also noted that a landslide victory provides an exceptional opportunity to a reform-minded incoming government (Alesina/Drazen 1991: 1183; Keeler 1993: 436). Although this scholarship focuses on the role of this *legitimacy mechanism* in the context of changes in office or landslide victories, it can be generalized to any form of (re)elected government (Frye/Mansfield 2004).[9] In the first months after the elections, governments benefit from additional political capital conferred by their election victory. Such extraordinary legitimacy can be used to initiate legislative discussions regarding key campaign proposals, less-noticed items of the winners' platform or even problems that were not openly discussed during the election campaign.

In sum, once policymakers become persuaded of the need for retrenchment, they take advantage mainly of voters' cognitive bias to reduce the political costs of such measures by passing them right after the elections. Thus, this study presents the hypothesis that *pension policy retrenchments are more likely in the years immediately after elections than in any other year of the electoral cycle.* After discussing the factors shaping the likelihood of pension retrenchments, we turn our attention to the properties of available indicators of pension generosity.

3 Limitations of previous operationalizations of welfare retrenchment

Retrenchment pension reforms are multidimensional legislative events that affect a wide range of provisions and have consequences in different time horizons. Therefore, any reliable indicator of these reforms should be sensitive to this multidimensionality. Such an indicator should capture modifications to both eligibility conditions (that is, tightening up access and shortening the duration of benefits) and pension determination rules (that is, calculation formulas for entry pensions and the revalorization of ongoing ben-

8 Consistent with this claim, studies on the UK and Denmark demonstrate that in election years voters are more knowledgeable of party platforms and economic conditions than in non-election years (Andersen/Tilley/Heath 2005: 292; Paldam/Nannestad 2000).

9 With regard to a credit-claiming policy, Frye and Mansfield show that the probability of trade liberalization decreases linearly during the electoral cycle (2004: 374).

efits). Moreover, such an indicator should also be sensitive to the fact that many reforms concentrate their impact on the medium and long terms. Indeed, the historically long implementation time-lags of pension policymaking (Pierson 1994: 14; Allan/Scruggs 2004: 499) have been bolstered by recent measures. Pension reforms passed since 1980 have been characterized by grandfather or phasing-in clauses that have further loosened the temporal tie between the enactment and the effective changes in pension generosity (Hinrichs 2007: 171; Weaver 1998: 214–215).[10] In many cases, decades may pass before the full individual-level impact of retrenchment pension reforms materializes.

In this sense, conventional indicators of welfare policy generosity – including aggregate expenditure data, decreases in expenditure, average and synthetic replacement rates (SRR), generosity indexes, proxies of structural reforms and other indicators of welfare policy change – can shed significant light on one or more dimensions of pension policy retrenchment. For instance, SRR reflect changes in the value of entry-level pensions. However, in isolation, these six indicators fail to encompass all the dimensions of pension generosity that have been affected by recent cutbacks. As a result, they tend to underestimate the number of retrenchments.

The prevalent data source in cross-national welfare state analysis is aggregate expenditure data (e.g. Castles 2004: 9; Kittel/Obinger 2002: 18). Its ubiquity derives from its ready availability, as well as its (delayed) sensitivity to expansionary changes in eligibility rules, calculation formulas, and population aging. However, as an empirical basis for identifying pension retrenchments this evidence (as well as average replacement rates) has two critical drawbacks: (a) it can only reflect cutbacks if their short-term consequences surpass spending growth driven by programmatic maturation; and (b) it remains insensitive to changes for prospective retirees. Even an indicator of retrenchments like sudden and sharp falls in spending (Hicks 1999: 215; Hicks/Zorn 2005: 641–644) disregards many pension policy changes, since it, similarly, cannot reflect the long-term consequences of recent reforms.

To control for programmatic maturation effects, as an alternative to expenditure-based data many scholars have relied on SRR (Korpi/Palme 2003: 432–433; Scruggs 2006: 352). This indicator provides accurate estimates of benefit generosity for new beneficiaries with stable characteristics because it controls for changes in the mass of recipients and the economic business cycle. Even so, SRR disregard changes in future pension benefits, which, as mentioned above, have prevailed in recent pension reforms. An additional limitation of SRR and generosity indexes is that these indicators discount cuts via revalorization mechanisms for ongoing pensioners and via changes in eligibility rules.[11] The

10 In fact, as a result of the maturation effects and strategic behavior of older workers, in the short term spending can grow faster *after* the enactment of a pension retrenchment.

11 For these reasons, Allan and Scruggs (2004: 499) disregarded the analysis of changes in synthetic pension replacement rates as proxies of the retrenchments that were enacted during the 1980s and 1990s.

result is that proxies derived from expenditure data and those developed from benefits for new beneficiaries largely underestimate the number of legislative events involving pension retrenchment.[12]

In contrast to the six types of indicators discussed so far, proxies of retrenchment based on microeconomic projections and foreseeable individual-level implications of reform are not restricted to certain aspects of welfare generosity. If they build on sufficiently detailed measures and provisions, these indicators can simultaneously capture changes in eligibility conditions and pension calculation rules. By doing so, they allow us to assess the net impact of expansionary and retrenchment provisions. Furthermore, since they incorporate future consequences into the analysis, they solve the problem of the implementation lag mentioned above. Consequently, a forward-looking approach represents a viable solution to the misidentification of phased-in reforms. Forward-looking indicators ultimately shift the focus of analysis from indicators of welfare generosity to actual government decisions manifested in legislative events.

Due to these properties, projection-based research has the highest potential to improve our understanding of the causes and consequences of welfare retrenchments. "There is probably no substitute for investigations that pay attention to fairly detailed dimensions of policy change, including attempts to map their (perhaps uncertain) long-term implications" (Pierson 2001a: 421). Following this line of reasoning, Green-Pedersen (2002: 60–62) operationalized the scope of welfare retrenchments through quantitative projections of budgetary effects, while Chand and Jaeger (1996), McHale (1999) and OECD (2007: 64–76) examined the long-term effects of recent changes on individual generosity.

Nevertheless, one drawback of a forward-looking approach is that it is very primary-data intensive. To construct continuous indicators, detailed information is required on pension provisions, working histories, and economic scenarios. For this reason, studies relying on projection-based data only cover small samples of countries. Given these conditions, to extend this approach within the constraints imposed by limited primary data, this paper utilizes three dichotomous indicators of pension retrenchment that draw on the secondary literature to identify the likely consequences of changes in pension policy provisions. Section 4 describes the construction of the dependent variables.

12 Moreover, an indicator of pension retrenchment focusing on structural reforms such as privatizations or NDC (notional defined contributions) reforms cannot capture parametric retrenchments (Brooks 2002, 2008), which account for most of the changes in affluent democracies.

4 The alternative operationalization of pension retrenchments

This study conceptualizes pension retrenchments as discrete legislative events that, in the short and/or long run, reduce the duration and/or the generosity of public retirement income benefits for most citizens affected by the reform (for equivalent definitions, see Green-Pedersen 2007: 17; Starke 2008: 19–20).[13] Moreover, this study uses three dichotomous dependent variables to distinguish (i) all forms of pension retrenchment, (ii) pension reforms with only retrenchment provisions, and (iii) net pension retrenchments that include expansionary measures. Using dichotomous dependent variables is the only viable option for examining the expected implications of recent pension reforms in a sufficient number of countries. The limited number of economic projections and the lack of primary data needed to estimate new projections (for example, contribution histories, detailed demographic distribution, and full descriptions of pension provisions) prevent the construction of continuous and comprehensive indicators for many countries. Even so, available projections and predictions from the economics of welfare policy offer a reliable foundation on which to identify generosity retrenchments among pension reforms. Furthermore, they allow a response to the different magnitudes of such cuts by distinguishing more radical reforms, without expansionary measures, from less radical net retrenchment reforms, which include both retrenchment and expansionary provisions.[14]

To ensure the comparability of the cases, the sample includes 14 affluent democracies with social-insurance public pension systems (Bonoli/Shinkawa 2005: 6; Hinrichs 2000: 358). While Beveridge systems seek to prevent elderly poverty, social insurance pension systems seek primarily to maintain workers' past income levels. Within this general framework, the main policy instrument of social insurance pension systems are mandatory earnings-related programs, financed mainly through social security contributions and the paygo mechanism. In these systems entitlements are (more or less) positively related to past wages, so that the system only produces moderate redistribution across income groups. The analysis considers all pension reforms passed in these 14 countries between 1981 and 2005.

The process of constructing the dependent variable involved two steps. First, I identified all pension reforms passed in these 14 countries during the period under study. Second, I distinguished those reforms that had a net retrenchment impact for most of the affected citizens. A critical precondition of producing a comprehensive list of pension retrenchments is the identification of all the pension reform packages and provisions

13 This is what Pierson terms "programmatic retrenchment" (1994: 15).

14 By quantitatively analyzing legislative events of pension retrenchment, this study builds on the pioneering work of Maestri (1994) and, especially, Alber (1986: 101–104), who used univariate correlations to describe the number of pension reforms passed, respectively, in Italy and Germany during the postwar period. Shortly before this paper went to print, the author found out that Petring (2010) has also conducted an analysis of pension policy changes as qualitative events.

passed in the 14 countries. To meet this precondition, I conducted a systematic review of the pension policy literature. A systematic review has the advantage of providing "an organized way of handling information from a large number of study findings under review" (Lipsey and Wilson 2000: 6; also Torgerson 2003). For the review, I first constructed a coding protocol to classify all the provisions noted in case studies. This protocol includes 13 subdimensions and three general pension policy dimensions: (i) conditions of eligibility, (ii) the pension calculation formula, and (iii) the indexation mechanism (Table 1).

The protocol constituted a road map for reviewing the pension policy studies. A burgeoning literature on social security and pension policy offers a wealth of detailed descriptions of recent legislation, furnishing dependable primary evidence for identifying pension reforms and changes in the 13 policy subdimensions. To collect this evidence I examined four main types of sources: first, I analyzed a minimum of six case studies per country; second, I examined numerous comparative studies on pension policymaking (e.g. Immergut, Anderson/Schulze 2007); third, I studied all the annual issues of key comparative reports and datasets (European Commission, several years; Fondazione Rodolfo De Benedetti-Institut zur Zukunft der Arbeit 2009; ISSA, several years; OECD, several years; Scruggs 2004; Social Security Administration, several years). Finally, for a few concrete reforms, domestic experts provided me with detailed descriptions of the changes. In all, more than 480 publications were analyzed.[15]

The fact that reform packages could combine retrenchment and expansionary provisions made it necessary to isolate pension reforms (and not individual provisions) as the unit of analysis. To do this, after taking note of all the provisions described in these sources, I determined which of the reforms had a net retrenchment effect. All the identified provisions were included in 118 reform packages.

To classify the reforms, I relied on two types of evidence: principles of the economics of welfare provision and microeconomic projections. Economists agree on the expected individual consequences of practically all parametric changes produced by recent reforms (Table 1). There is a consensus that tightening eligibility criteria (for example, increasing minimum contributory periods and pensionable ages) shortens the duration of benefits. It is also widely held that increases in the pension-calculation reference period, reductions in the accrual rate, and a change from wage to price indexation undermine the individual pension promise. Therefore, these principles provide a solid foundation for classifying many reforms. Based on these principles, if the reform package only includes expansionary or retrenchment measures, I could confidently classify it as either a retrenchment or a non-retrenchment event.

15 A list of these measures and the evidence I used to classify each reform comprise a 60-page documentation that cannot be included here due to its length.

Table 1 Main elements of the coding protocol and data extraction sheet

Dimension	Operationalization of retrenchment	Economic studies supporting this interpretation
Qualifying conditions		
Minimum qualifying period	Expansion in the period	Lindbeck and Persson (2003: 106–107); GAO (2005: 11–12); Holzman (1988: 68–75)
Minimum pensionable age – men	Expansion of the pensionable age	Lindbeck and Persson (2003: 106–107); OECD (2007: 56–62); GAO (2005: 11–12)
Minimum pensionable age – women	Expansion of the pensionable age	Lindbeck and Persson (2003: 106–107); OECD (2007: 56–62); GAO (2005: 11–12)
Expected pensionable age – men	Expansion of the pensionable age	Barr (2002: 33); Whiteford and Whitehouse (2006: 89–92)
Expected pensionable age – women	Expansion of the pensionable age	Barr (2002: 33); Whiteford and Whitehouse (2006: 89–92)
Calculation formula		
Years taken into consideration	Increase in the years taken into consideration	Whiteford and Whitehouse (2006: 89–92); OECD (2007: 56–62); GAO (2005: 11–12); Holzman (1988: 68–75)
Past-wages indexation mechanism	Any temporary suspension or partial or total transition from wage to price indexation	Whiteford and Whitehouse (2006: 89–92); OECD (2007: 56–62)
Accrual rate	Reductions in the accrual rate	Lindbeck and Persson (2003: 106–107); OECD (2007: 56–62); Holzman (1988: 68–75)
Maximum pension	Reductions in the maximum pension	Holzman (1988: 68–75)
Years needed for maximum accrual rate	Expansion of the years needed	Holzman (1988: 68–75)
Penalization for early retirement	Expansion of the percentage of pension withdrawn for each year of early retirement	
Homogenization of pension calculation formula	Convergence of the rules for smaller, privileged funds towards the main social security fund	
Revalorization mechanism	Any temporary suspension or partial or total transition from wage to price indexation	Lindbeck and Persson (2003: 106–107); Whiteford and Whitehouse (2006: 89–92); OECD (2007: 56–62); GAO (2005: 11–12); Holzman (1988: 68–75)

Based on this logic, 51 of the 118 reforms only included expansionary measures. Consequently, I classified them as expansionary reforms. Moreover, one reform was suspended before implementation (Germany 1997), and another only implemented principles set by prior reforms (Sweden 1998).

All the remaining 65 reforms had at least one retrenchment provision, hence special care was taken in determining whether they were ultimately retrenchments, expansionary, or neutral. A large majority of them (43) did not include expansionary measures but only generosity decreasing ones. I could find evidence of financial projections for seven of these 43 reforms and all confirmed future reductions in pension generosity levels. Those 43 reforms were thus classified as retrenchment reforms.

To classify the remaining 22 events that combined expansionary and retrenchment provisions, I searched for evidence based on econometric projections for the 2020s and 2030s. If these projections indicate that, as a result of the changes, pension spending or the contribution rate will be lower than otherwise, the reform was classified as a retrenchment because these savings could be achieved only through cutbacks in generosity levels.[16] Explicit bibliographic references to projections reveal evidence of cost-cutting effects for 18 of the 22 reforms and expansionary effects for just one reform.[17] Regarding the other three final reforms, no financial projections have been published by domestic officials or economists. However, local experts expect the impacts of two of them to be, respectively, cost-cutting (Portugal 1993) and cost-expansionary (Greece 2002).[18] Finally, I classified the last reform as cost-expansionary (Belgium 1984).[19]

In sum, the analysis reveals 62 retrenchment reforms. These events constitute the first dependent variable, *all forms of retrenchment*. Moreover, these 62 legislative events can be differentiated into two groups that produce two additional dependent variables. The second dependent variable identifies solely the 43 *retrenchment reforms without expansionary measures*. The third dependent variable distinguishes the 19 *net retrenchment reforms with expansionary measures*. Since this latter group of reforms includes countervailing expansionary measures, we can expect that they produce less aggressive (or more moderate) retrenchments. Section 6 describes longitudinally the enactment of these legislative events and provides examples of each type of pension retrenchment.

16 These savings cannot be attributed to a decline in the number of beneficiaries, which, due to population aging, will continue to grow in all countries until the late 2030s.

17 In particular, Austria 1993, 1997, and 2004; Belgium 1996; Finland 1992, 1994, and 2003; France 2003; Germany 1989 and 2001; Italy 1995 and 1997; Norway 1992 and 2005; Portugal 2002; Spain 1985 and 1997; and Sweden 1994. The expansionary reform is Norway 1981.

18 The author is grateful for the expert evaluations provided through personal correspondence by Walter Quintelier (Belgium), Manos Matsaganis (Greece), Markus Knell (Austria), Mika Vidlung (Finland), Rune Ervik (Norway), and Elisa Chuliá (Portugal).

19 In this case, of the two main provisions, substantial improvements in the minimum pensions of civil servants and the self-employed can be expected to outweigh the moderate reduction in costs produced by limitations on the accumulation of pension rights beyond 45 years of employment.

5 Independent variables and analytical strategy

Independent variables

It is now possible to present the independent variables of the event history analysis. Following Hicks and Zorn (2005: 649, 2007), the baseline models include *economic growth, unemployment rate, public treasury balance, deindustrialization, public pension spending*, and *trade openness*. As already mentioned, according to the dominant economic approach, lower *economic growth* and lower *public treasury balance* and a higher *unemployment rate* should boost the likelihood of a pension retrenchment. Furthermore, according to Iversen (2001: 328, 2005: 188), the poor skill transferability of industrial workers makes them particularly supportive of welfare generosity, which entails that retrenchments should be less likely under conditions of a low level of *deindustrialization*. Pressures for welfare reform from growing international competition are measured by the level of *trade openness*, but also *foreign direct investment openness* (for a review, see Brady/Beckfield/Seeleib-Kaiser 2005). The final macroeconomic variable is *public pension spending*. If the neo-institutionalist approach is correct and the maturity and scope of paygo programs affects the chances of pension retrenchments, this should be reflected in the impact exerted by the overall size of public pension spending. Average GDP per capita has not been included in the models because contemporary theoretical accounts of pension policy retrenchments do not predict an important role for the level of affluence and GDP per capita is highly multicollinear with all other economic variables.[20]

As already mentioned, to most observers, population aging has increased the risk of retrenchments through current and prospective levels of pension spending. Consequently, the *share of elderly population* addresses pressures emanating from the size of the current elderly population, while the *old-age dependency ratio in 2025*, which is based on biannual projections by the United Nations (several years), considers the ratio of the elderly to the active-age population at the peak of the demographic transition.

To address the political conditions possibly affecting the passage of pension retrenchments, seven variables have been included. Among these political dimensions, partisan politics have absorbed a great deal of interest in past comparative welfare state research. Following the convention in this literature, I use proxies of the power of left and Christian Democratic families of parties in the executive (Brady/Beckfield/Seeleib-Kaiser 2005: 927; Huber/Stephens 2001: 55). If partisan politics still drive policymaking in the pension retrenchment era, the proportions of *left cabinet portfolios* and *Christian Democratic cabinet portfolios* should be inversely related to pension retrenchments.

20 Even so, additional models – available upon request – indicate that the inclusion of GDP per capita does not affect the main findings of this study.

Beyond partisan effects, the cross-national diffusion of policy models has been stressed as a possible cause of policy change. Brooks (2007: 713) and Müller (2000) demonstrate the relevance of the cross-national diffusion of structural pension policy models in middle-income countries. Therefore, *peer enactment* tests the role of diffusion by reflecting the weighted number of retrenchments in other countries during the previous year. Each retrenchment event in other countries is weighted by the geographic distance between their two capitals. This is because neighboring countries tend to have stronger cultural similarities and trade relations, as a result of which geographical proximity should make a given nation particularly attentive to the policy changes in neighboring nations (Simmons/Elkins 2004: 182).

Moreover, historical institutionalists suggest that political institutions ratified in constitutions, such as bicameral or presidential systems, create opportunities to block reform projects. Responding to this expectation, *constitutional structure* is an index of three formal veto points: bicameralism, federalism, and presidentialism. Similarly, *legislative fractionalization* measures the difficulties encountered in passing a legal reform under conditions of temporal power dispersion.

Concerning the strategic consideration of the electoral cycle, Frye and Mansfield (2004: 378) test the hypothesis of a greater proneness to pass pro-market economic reforms immediately after elections through the number of years until the next election. However, this variable reflects cross-national differences in the length of the electoral cycle rather than a strict post-election year effect. To capture only the latter, *post-election year* instead identifies the year after legislative or presidential elections. In addition, the effect of the financial criteria laid down in the 1992 Treaty on the European Union is measured by *EMU candidate.*

Most independent variables have been specified with a one-year lag. However, due to their idiosyncrasies, four variables have been specified differently. *Economic growth* represents the moving average value in the previous three years, because this is the most volatile economic variable, so that a pension reform project started due to a sudden downturn may become law after an improvement in the economic conditions. Furthermore, the partisan structure of governments can affect welfare policy reforms through long or short time-lags (Huber/Stephens 2001: 60–61). The government party may drive pension reform by opting for prompt enactment, but also by opening the debate on pension reform or initiating a long legislative process. Thus, to cover these three options, following Hicks and Zorn (2005: 646), *left cabinet portfolios* and *Christian Democratic cabinet portfolios* represent the mean value in the previous four years. Finally, *post-election year* does not include any lags because the hypothesis discussed above predicts an instantaneous impact of the stage of the electoral period on the likelihood of reform. The Appendix includes definitions, sources, and descriptive statistics for all the independent variables (Table A1).

Analytical approach

Since all the countries under observation experienced at least two retrenchment reforms, the dependent variables used in this study involve recurrent events. In addition, these recurrent events are ordered or sequential. Pension policy case studies indicate that OECD governments launched pension reform project *k* only when *k–1* had been passed or aborted. Until recently, the statistical literature recommended the analysis of ordered and recurrent events through Cox models with conditional variance-correction and risks restarted at the last event (Box-Steffensmeier and Jones 2004: 157–166; Box-Steffensmeier and Zorn 2002: 1082; Cleves 2000: 38–39; Cleves/Gould/Gutierrez 2004). These models have the valuable property that they eliminate biases in the coefficient parameters due to the dependence between events (time dependence). For this reason, Hicks and Zorn (2005: 647, 2007) relied on these models in their study of general welfare spending retrenchments.

However, this analytical strategy does not address a second feature of recurrent events data, which is unobserved unit heterogeneity. Some subjects in the analysis may be more likely to experience the events than others, and the sources of this heterogeneity may be unobserved, which violates the assumption of case independence and could bias the results. Hence, following recent work by Box-Steffensmeier et al. (2006, 2007), this study uses conditional frailty models that provide a valid analytical strategy to simultaneously address time dependence and unit heterogeneity. Similarly to other methods of event history analysis, conditional frailty models allow us to examine the determinants of the hazard rate, which is the probability that an event occurred in one interval, given that it did not occur in the previous interval (Blossfeld/Golsch/Rohwer 2007: 33; Petersen 1991: 456). Therefore, an increase in the hazard rate reduces the time elapsed until the next event. But conditional frailty models have two key advantages. They address the problem of event dependence by stratifying the analysis by event rank and generating a hazard baseline for each event, and the possible presence of unit heterogeneity by calculating, along with the parameter estimates, a frailty or random effect shared by all the events of each country (see also Hougaard 2000; Kelly/Lim 2000: 32).

In sum, I fit conditional frailty models with times restarted after each event and stratified events. All models report robust standard errors, grouped by country.[21] These models analyze three dependent variables: (i) all forms of pension retrenchment (that is, net retrenchments with or without expansionary provisions); (ii) retrenchment reforms without expansionary provisions; and (iii) retrenchment reforms with expansionary provisions. The distribution of countries per number of these three types of events is positively skewed because most countries do not have many events. Therefore, to avoid biases in the baseline hazard produced when few countries have a high number of events (Box-Steffensmeier et al. 2007: 246), for the three dependent variables I collapsed all the strata for the mean and higher number of events. In the case of the first

21 Conditional gap time models – available upon request – generate substantially equivalent results.

dependent variable, *all forms of retrenchment*, since the average number of events is 62/14=4.429, all the strata for the fourth or higher event have been collapsed. The frailties are assumed to follow the gamma distribution. The analysis was conducted with the software R 2.10.1 (R Foundation for Statistical Computing 2009).

6 Descriptive results

It is useful to begin the analysis with a descriptive overview of the pattern of pension retrenchments. As noted above, the mean number of all forms of pension retrenchments is 4.429. However, most countries deviated from this average. Austria undertook nine reforms; Finland eight; Germany seven; Italy six; Belgium, France, Japan, Portugal and Sweden four each; Greece and Spain three; and Canada, Norway, and the US only two.[22] In sum, Continental European and Scandinavian countries enacted, in general, more retrenchment events than Anglo-Saxon and Southern European countries.

Figure 1 depicts the number of events enacted during the period under study. The figure does not reveal a clear longitudinal increasing or decreasing trend. Instead, we observe a cyclical trend, with three historical peaks. The first peak occurred in the early 1980s. The second peak was particularly intense and took place between 1992 and 1997. Finally, the third peak occurred in the early 2000s. The years 1983 (5), 1992 (6), and 2004 (5) saw the largest number of reforms. The persistence of retrenchments in the early 2000s and the absence of a clear downward trend suggest that these series of legislative events do not constitute a brief pause in the century-long expansion in the generosity of public pension provision, but that, on the contrary, the era of pension retrenchments is here to stay.

To illustrate the content of the reforms, it is useful to evaluate a few cases. Here we will consider three events that took place in 1981, 1992, and 2003. In 1981, Sweden introduced a reduction in the benefit levels of partial pensions from 65 percent to 50 percent and modified the time span used to uprate the pension index (Anderson/Immergut 2007: 367). In 1992, Greece approved a new pension calculation formula with a lower accrual rate for future retirees, raised the retirement age of women, and downgraded the formula for civil servants to the level of private sector employees (Triantafillou 2007: 134). Finally, in 2003 France introduced a less generous pension indexation mechanism for civil servants' schemes and extended the contribution period necessary to receive a full pension (Mandin/Palier 2005: 78). In the three cases, most individuals affected by

22 Austria 1984, 1987, 1992, 1993, 1996, 1997, 2000, 2003 and 2004; Belgium 1982, 1986, 1995 and 1996; Canada 1989 and 1998; Finland 1984, 1987, 1992, 1994, 1995, 2000, 2003 and 2004; France 1984, 1987, 1993, 2003; Germany 1982, 1983, 1989, 1996, 1999, 2001 and 2004; Greece 1983, 1990 and 1992; Italy 1983, 1992, 1994, 1995, 1997 and 2004; Japan 1985, 1994, 1999 and 2004; Norway 1992 and 2005; Portugal 1993, 2000, 2002 and 2005; Spain 1983, 1985 and 1997; Sweden 1981, 1991, 1992 and 1994; United States 1981 and 1983.

Figure 1 Pension retrenchment events in 14 OECD countries, 1981–2005

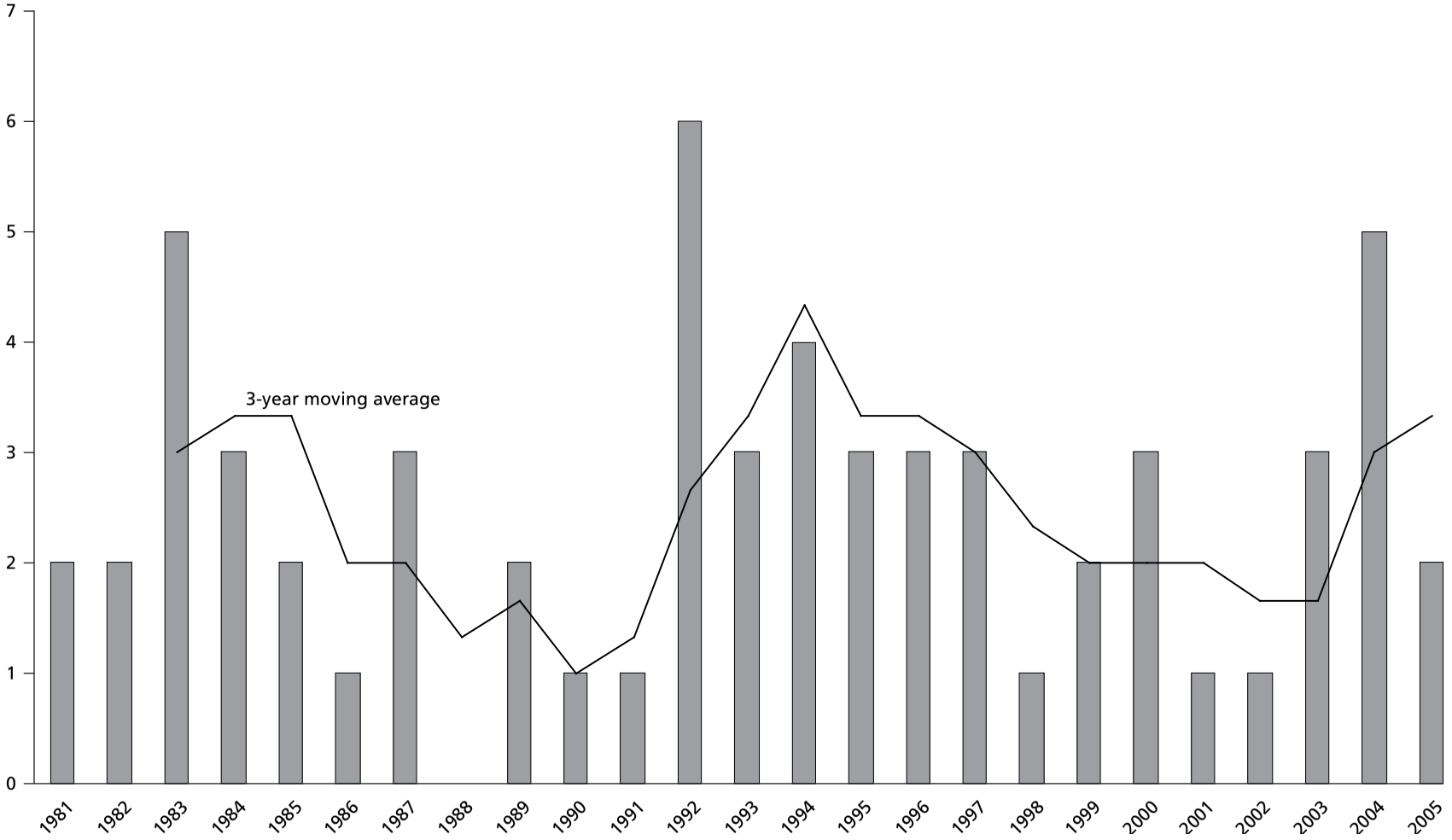
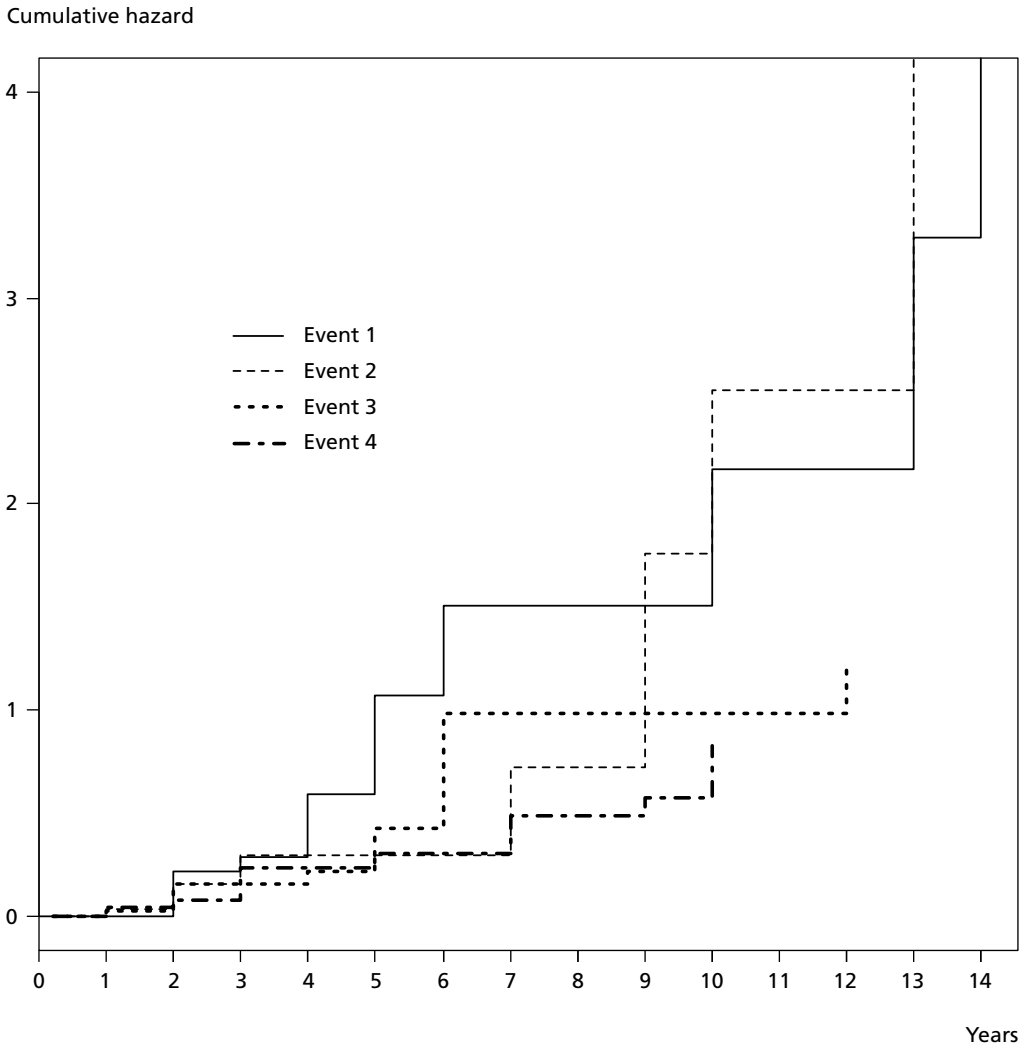


Figure 2 Estimated cumulative hazards for each event number for the conditional frailty model of pension retrenchments in 14 OECD countries



the reform can be expected to suffer a reduction in the duration of their benefits and/or the volume of their entitlements.

Consistent with the multidimensionality of pension policy, the content of the 62 pension reforms presents large differences. Only two of the reforms are paradigmatic or structural (Italy 1995 and Sweden 1994) because they represent a departure from either the paygo system or traditional defined-benefit principles of public pension provision, whereas 60 reforms are parametric since they do not change the logic and architectural structure of the system. Parametric reforms, furthermore, differed substantially in the number of retrenchment provisions. Of all reforms, one-quarter (24.19 percent) included only one retrenchment provision, while the large majority (75.81 percent) included at least two retrenchment provisions.

To gain a better understanding of the pension policymaking process in the welfare retrenchment era, we can examine the cumulative hazards by event number, since they could provide indications of event dependence across countries. Figure 2 indicates that the hazards do not clearly tend to decrease or increase from one event to the next. The risk of pension retrenchment is higher after the first event than after the second one only for the first years. Moreover, the hazards after the second (third) event are not higher than after the third (fourth) event. Therefore, Figure 2 does not provide solid evidence of event dependence. But the simulations from Box-Steffensmeier (2007: 243) reveal that, in the absence of event dependence, the use of conditional frailty models does not bias the parameter estimates.

7 Multivariate results

All forms of retrenchments

Table 2 presents four models for the passage of pension retrenchments with or without expansionary provisions during the period 1981–2005. Given the predominance of socioeconomic explanations in the literature, Models 1 and 2 examine the impact of socioeconomic and political dimensions separately. Model 3 combines both socioeconomics and political factors, and Model 4 includes an interaction term. Model 5 provides an additional sensitivity test.

According to Model 1, which only considers economic dimensions, low economic growth and public pension spending shape the hazard of an event. The coefficients of economic growth and unemployment rate have the expected sign, but only economic growth is statistically significant. At the 95-percent confidence level, we can assert that the risk of a reform decreases with higher economic growth. This is consistent with the expectation that economic crises facilitate the enactment of restrictive pension reforms. Moreover, public pension spending is positive and significant, which supports the claim of neoinstitutionalist scholars that the scope of pension provision matters for cutbacks in this policy field. Finally, Model 1 does not reveal a statistical association between the current or prospective extent of population aging and the hazard of a retrenchment. Contrary to the general understanding that concerns about the financial impact of population aging drive these reforms, neither the share of elderly population nor the old-age dependency ratio in 2025 has an impact on the dependent variable. Therefore, model 1 indicates that low economic growth and high public pension spending reduce the time elapsed until the next pension retrenchment.

Model 1 also includes the variance of the random effect (θ), which allows us to determine whether some countries are more prone to pension retrenchments than others due to unmeasured factors. In Model 1, as well as all the other models in Tables 2 and 3,

Table 2 Conditional frailty models for the passage of pension policy retrenchments, 1981–2005

	All forms of pension retrenchment				
	Model 1	Model 2	Model 3	Model 4	Model 5
Socioeconomic factors					
Economic growth$_{(\text{mean t–3 to t–1})}$	–.310**		–.442**	–.477***	–.516***
	(.114)		.139)	(.144)	(.124)
Unemployment rate$_{(t-1)}$	.069		.063	.074	.030
	(.053)		(.062)	(.065)	(.059)
Public treasury balance $_{(t-1)}$	–.064		–.051	–.098	
	(.051)		(.052)	(.060)	
Deindustrialization$_{(t-1)}$	–.050		–.057	–.068	–.055
	(.044)		(.055)	(.056)	(.051)
Public pension spending$_{(t-1)}$	.278**		.288*	.359**	
	(.087)		(.110)	(.120)	
Trade openness$_{(t-1)}$	.012		.010	.010	.006
	(.007)		(.009)	(.009)	(.009)
Foreign direct investment openness$_{(t-1)}$	–.022		–.011	–.006	–.024
	(.033)		(.032)	(.029)	(.037)
Elderly population$_{(t-1)}$	–.126		.004	–.074	.100
	(.120)		(.137)	(.147)	(.129)
Old-age dependency ratio in 2025$_{(t-1)}$	.073		.033	.032	.038
	(.051)		(.063)	(.062)	(.059)
Political factors					
Left cabinet portfolios$_{(\text{mean t–4 to t–1})}$		.006	.001	–.001	.010
		(.005)	(.007)	(.007)	(.007)
Christian democratic		.008	.001	–.001	.010
cabinet portfolios$_{(\text{mean t–4 to t–1})}$		(.006)	(.009)	(.008)	(.007)
Peer enactment$_{(t-1)}$		–.053	–.268*	–.261	–.189
		(.112)	(.133)	(.136)	(.128)
Constitutional structure$_{(t-1)}$		.075	.169	.114	.277
		(.174)	(.231)	(.227)	(.223)
Legislative fractionalization$_{(t-1)}$		.023	.033	.039	.027
		(.016)	(.022)	(.021)	(.021)
Post-election year		.874**	.892**	.866**	.941**
		(.287)	(.306)	(.305)	(.302)
EMU candidate$_{(t-1)}$		.581	.371	.401	.532
		(.433)	(.496)	(.486)	(.467)
Public treasury balance*Maastricht$_{(t-1)}$				.179	
				(.111)	
θ	.000	.000	.000	.000	.000
R^2	.087	.044	.125	.132	.105
N	350	350	350	350	350
Number of failures	62	62	62	62	62
Likelihood ratio χ^2 for θ	.024	.095	.083	.062	.017
Wald χ^2	30.0***	15.7*	39.5***	39.0**	33.2**

Key: *p < .05; **p < .01; ***p < .001; robust standard errors in parentheses.

Table 3 Additional conditional frailty models, 1981–2005

	Only retrenchment measures	Mixed provisions, but retrenchments dominant
	Model 1	Model 2
Socioeconomic factors		
Economic growth$_{(\text{mean t–3 to t–1})}$	–.465*	–.608*
	(.192)	(.295)
Unemployment rate$_{(t-1)}$	–.021	.229
	(.080)	(.129)
Public treasury balance$_{(t-1)}$	–.020	.069
	(.081)	(.132)
Deindustrialization$_{(t-1)}$	.023	–.011
	(.072)	(.125)
Public pension spending$_{(t-1)}$	.440**	.837*
	(.159)	(.389)
Trade openness$_{(t-1)}$	.013	–.013
	(.011)	(.024)
Foreign direct investment openness$_{(t-1)}$	–.100	.048
	(.070)	(.034)
Elderly population$_{(t-1)}$	–.300	.215
	(.178)	(.354)
Old-age dependency ratio in 2025$_{(t-1)}$	.180*	–.376
	(.086)	(.223)
Political factors		
Left cabinet portfolios$_{(\text{mean t–4 to t–1})}$	.001	–.032
	(.008)	(.018)
Christian democratic cabinet portfolios$_{(\text{mean t–4 to t–1})}$	.010	–.017
	(.010)	(.020)
Peer enactment$_{(t-1)}$	–.263	–1.114
	(.163)	(.620)
Constitutional structure$_{(t-1)}$	–.452	–.202
	(.338)	(.661)
Legislative fractionalization$_{(t-1)}$	.026	.068
	(.031)	(.063)
Post-election year	1.063**	–1.072
	(.391)	(.765)
EMU candidate$_{(t-1)}$	.429	1.161
	(.729)	(.917)
Public treasury balance*Maastricht$_{(t-1)}$	.124	.510*
	(.179)	(.253)
θ	.000	.920
R^2	.111	.120
N	350	350
Number of failures	43	19
Likelihood ratio χ^2 for θ	.075	.240
Wald χ^2	26.4	14.3

Key: *p<.05; **p<.01; ***p<.001; robust standard errors in parentheses.

the variance of the frailty is not statistically significant, which means that unobserved heterogeneity does not affect the results. In other words, unmeasured factors, such as distinctive legislative traditions, do not enhance the hazard of an event in countries with more retrenchments.

Model 2 considers the effects of political factors on the timing of pension retrenchments. It reveals that only one of the seven variables is significant. At the 95-percent confidence level, we can claim that *post-election year* has a positive association with the hazard of retrenchment. In other words, public pension retrenchments were significantly more likely immediately after elections than at any other point during the electoral cycle. By contrast, all the other political variables prove insignificant. The partisan structure of the government does not affect the hazard of a reform, because at the conventional confidence level the proportion of the *left* and of *Christian Democratic cabinet portfolios* is unrelated to the dependent variable.[23] The expectation of a causal role for the diffusion of these policy reform projects is not supported either, as the variable *peer enactment* is insignificantly related to the risk of an event. In addition, policy-making institutions, including *constitutional structure* and the level of *legislative fractionalization*, as well as formal *EMU candidate* status, also display no significant effect.

One possible concern with the finding that the stage in the electoral cycle is the only political factor shaping the timing of the passage of pension retrenchment is that this result could be influenced by the lack of consideration of economic dimensions in Model 2. Model 3, therefore, includes all (non-interacting) variables. Even so, the main findings obtained from the previous two models are not substantially affected by the combined inclusion of these variables. On the one hand, the partisan structure of government (*left cabinet portfolios* and *Christian Democratic cabinet portfolios*), the level of population aging (*elderly population* and *old-age dependency ratio in 2025*), and the rules of the legislative process (*constitutional structure* and *legislative fractionalization*) have an insignificant effect on the timing of a retrenchment. On the other hand, economic crises (low *economic growth*), the size of public pension programs (*public pension spending*), and the stage in the electoral cycle (*post-election year*) remain statistically significant. In fact, the coefficients for *economic growth*, *public pension spending*, and *post-election year* do not decline from Models 1 and 2 to Model 3.[24] In addition, while in Model 3 *peer enactment* is statistically significant, later models reveal that this variable lacks a robust significant effect.

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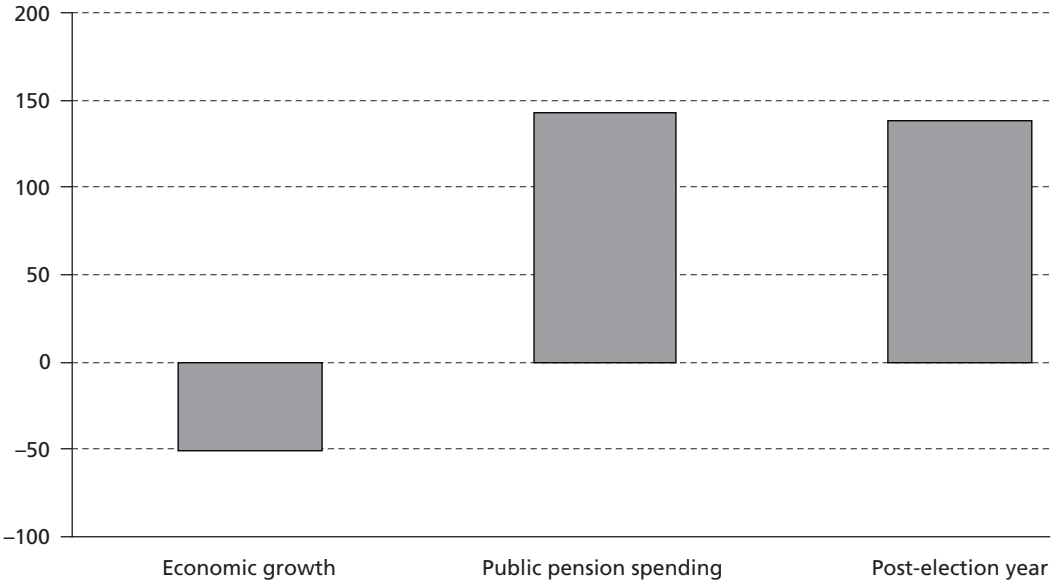
23 The insignificance of the partisan effects is not affected by the specification of *left* and *Christian Democratic cabinet portfolio*. When these variables are lagged only one year or are the moving average of one- and two-year lags, they remain statistically insignificant.

24 Additional univariate models were fitted to examine whether the results were affected by multicollinearity between the independent variables. However, these provide equivalent results. In these models (available upon request), *elderly population*, *dependency ratio in 2025*, *left cabinet portfolios*, and *Christian Democratic portfolios* are insignificant; furthermore, *economic growth*, *public pension expenditure*, and *post-election year* are statistically significant and in the same direction as the models of Table 3.

Figure 3 Percent change in the hazard of a pension retrenchment produced by a standard deviation increase (economic growth, public deficit and public pension spending) and one-unit increase (post-electoral year)



Note: Estimated from Model 4 in Table 3.

Model 2 also reveals that, *ceteris paribus*, having official EMU candidate status does not significantly affect the risk of an event. However, the critical expectation of the welfare state literature in this regard is that EMU candidacy has a mediational impact, so that the effect of the public deficits should be significantly larger for EMU candidates than for non-EMU candidates. Model 4 allows us to test this hypothesis by including a *public treasury balance*EMU candidate* interaction term. In this model, the variable *public treasury balance* is negative but still insignificant. This means that, for non-EMU candidates, having a higher public deficit did not increase the risk of a retrenchment. Moreover, the interaction term *public treasury balance*EMU candidate* is also statistically insignificant. Model 4, therefore, shows that signing the Maastricht Treaty did not increase the impact of public deficits on the risk of an event. All the evidence presented so far reveals that the timing of all forms of generosity rollbacks in public pension programs is affected by economic crises, the level of public pension spending, and the stage in the electoral cycle.

How substantial are the effects of the significant variables? Since, despite their statistical significance, these variables could have a negligible or insubstantial impact, it is useful to examine how possible changes in these independent variables affect the hazard of an event. Based on the results from Model 4, Figure 3 presents the predicted changes in the hazard of a retrenchment associated with increases in three independent variables. For the two continuous variables the percentage change in the hazard rate is produced by a standard deviation increase. However, since a standard deviation change is illogical

for dichotomous variables, for *post-election year* Figure 3 depicts the percentage change in the hazard rate produced by the marginal change. Figure 3 shows that one standard deviation increase in the rate of economic growth decreases the hazard of any form of pension retrenchment by 50.64 percent. A standard deviation increase in public pension spending increases such hazard by 142.37 percent. With regard to the stage in the electoral cycle, the variable included in the model also has a substantial impact. The hazard rate is 137.74 percent higher in post-election years than in any other year during the electoral cycle. Therefore, it is possible to conclude that the two economic variables (*economic growth* and *public pension spending*) plus the variable *post-election year* are both statistically and substantially significant.

Another potential concern with the findings drawn from Models 1–4 is that public pension spending could absorb part of the effect of other economic or sociopolitical dimensions, making the latter insignificant. As hypothesized by Hicks and Zorn, public deficits and welfare spending may act as intermediate or "funnel variables" (2005: 652) of the ultimate causes of retrenchments. According to their hypothesis of "self-limiting immoderation," unemployment growth and population aging contribute decisively to the constant increase in public social spending, facilitating the justification of welfare retrenchments as fiscal rebalancing measures. Model 5 in Table 2 addresses this concern by dropping the variables *public treasury balance* and *public pension spending*. However, the evidence indicates that the significant effect of public pension spending does not absorb the effect of population aging and the unemployment rate, because in Model 5 the coefficients for *unemployment rate*, *elderly population*, and *old-age dependency ratio in 2025* do not become positive and significant.

Retrenchment reforms with or without expansionary measures

It is also informative to examine the determinants of the timing of the two types of retrenchment reforms: those that do and those that do not include expansionary measures. These additional analyses contribute to determining the robustness of the findings obtained with regard to all forms of pension retrenchment, as well as the potential existence of differences in the causes of less aggressive retrenchment reforms (that is, with expansionary provisions) and more aggressive ones (that is, without expansionary provisions). To this effect, Table 3 includes two conditional frailty models for the second and third dependent variables. In both cases, the events are ordered or sequential, because the risk for each type of reform only starts after the positive or negative conclusion of the last reform project. Thus, the time risk of a retrenchment without expansionary provisions restarts after the previous event of that type. Similarly, the time risk of a retrenchment with expansionary provisions restarts after the previous event of that type. Due to the positive skew in the second and third dependent variables, in both cases I also collapsed the strata for the average and higher number of events.

Table 3 first considers the dimensions shaping the hazard of a pension retrenchment without expansionary provisions. Consistent with the results of Table 2, *economic growth*, *public pension spending*, and *post-election year* are still significant and in the expected direction. Countries in the year immediately after elections with lower rates of economic growth and higher public pension spending have a higher likelihood of a retrenchment pension reform without expansionary measures.

Model 2 examines the factors shaping the time elapsed between net retrenchments with expansionary provisions. It shows that lower economic growth and higher public pension spending also shorten the time elapsed until the next net retrenchment with expansionary provisions. However, the variable *post-election year* becomes insignificant in this model. Therefore the stage in the electoral cycle does not affect these less numerous forms of pension retrenchment.

Three additional findings from Table 3 also bear mentioning. The generalized expectation that population aging was a driving force of these reforms finds some weak support in this table. Although the two proxies for population aging were insignificant in all models of Table 2, Table 3 shows that countries with a higher projected old-age dependency ratio in 2025 are more likely to pass retrenchments without expansionary measures. In addition, concerning the partisan variables, left and Christian Democratic cabinet portfolios are insignificantly related to the hazard of pension retrenchments with and without expansionary provisions. Finally, the results in Table 3 are also inconsistent with the expectation that the Maastricht criteria increased the hazard of retrenchments in countries with high public deficits.[25]

8 Discussion

Since the early 1980s, pension policymaking in social-insurance countries has been characterized by a series of generosity retrenchments aimed at reducing pension spending growth. After a century of expansionary reforms in which generosity levels were repeatedly ratcheted up, the contemporary period has seen reforms involving retrenchments in eligibility and benefit levels. The dataset constructed for this paper reveals that most (52.54 percent) of the public pension reforms passed between 1981 and 2005 in the 14 affluent democracies considered in this study should be considered generosity retrenchments.

To understand this historical reversal in public pension provision, I have examined the forces affecting the timing of contemporary pension retrenchments in social-insurance

25 According to model 2, for EMU candidate countries, the hazard of a retrenchment with expansionary provisions is actually significantly lower when there is a high public deficit.

countries. My main argument is that the recurrence of these legislative events is shaped mainly by the presence of economic crises, high public pension spending, and the stage in the electoral cycle.

First, this study shows that, in these countries, low economic growth shortens the interval between all forms of pension retrenchments, as well as retrenchments with and without expansionary measures. Poor economic growth is widely perceived as harmful for the financial health of paygo programs and overall public finances. Hence this adverse economic condition creates incentives for policy changes that can ensure the sustainability of welfare programs and help to rebalance state budgets. Faced with persistently low economic growth rates or sudden recessions, in a context of popular opposition to tax increases many policymakers consider cutbacks in eligibility and/or benefits to be the only possible path of reform.

Second, in social-insurance countries higher public pension spending shortens the interval between all forms of pension retrenchments, as well as pension retrenchments with and without expansionary provisions. Although public pension programs have greatly improved the life chances of the elderly (Brady 2004: 66; OECD 2008b: 132), there are widespread concerns that higher public pension spending may have an unintended negative impact on employment levels, mainly because large social security contributions increase the costs of hiring new workers. Thus, in order to avoid further erosion of the job supply, policymakers in countries with high public pension spending championed or consented to pension retrenchments.

The third main empirical finding is that the hazards of all forms of pension retrenchments and pension retrenchments without expansionary provisions are significantly higher in post-election years. Since pension retrenchments are largely unpopular reforms, cabinet members and policymakers have to devise strategies to reduce the partisan costs of these changes. This study shows that the strategic consideration of the electoral calendar constitutes an important political maneuver to elude political blame for welfare retrenchment projects. Initiating the legislative process right after the last elections allows policymakers to capitalize on the fact that voters are not likely to give a lot of weight to policy events that occur early on in the electoral cycle. Therefore, the political retribution for restrictive pension reforms should be smaller if the changes are enacted right after the last elections.

In contrast to the strong impact of economic conditions on the likelihood of pension retrenchments, partisan politics do not help to account for these reforms. The political power of both left parties and Christian Democratic parties does not shape the risk of this legislative event. Moreover, the widespread assertion that concerns about the financial impact of population aging were catalysts for recent welfare reforms finds only weak supportive evidence. A higher level of projected population aging shortens the time elapsed until the next pension retrenchment without expansionary measures. However, objective levels of both current and prospective aging do not affect the time

until all forms of pension retrenchment and pension retrenchment without expansionary measures. This finding suggests that population aging is not only an inevitable demographic trend, but a sociopolitical construction as well. Econometric projections provide irrefutable evidence of the expansive impact of aging on pension spending, while European citizens recognize the economic challenge posed by the demographic transition (Janky/Gál 2007: 3). However, the evidence of this paper reveals that, at least for the area of old-age pensions, the objective level of population aging does not have a robust translation in the reform agenda of OECD governments. Indeed, policymakers of countries facing very different demographic scenarios have invoked the shadow of demographic change to justify the need for retrenchments. In this sense, more research is needed to determine how population aging is politically constructed.

More broadly, these findings suggest the transition from a model of interest-based pension politics to a model of technocratic pension politics that may be generalizable to other domains of welfare, fiscal, and macroeconomic policy. In the interest-based model, changes in the selection or calibration of policy instruments respond to the mobilization of distinct class interests. These interests are reflected in the normative positions and value judgments of policymakers leading the process of reform (Weber 1994). Closely resembling the interest-based model, welfare policy-making until the late 1970s mainly sought to ensure the allegiance of the lower classes to the capitalist mode of production (Esping-Andersen 1996b: 66; Kohli 2008: 196).

In the technocratic model of pension politics, instead, rational-instrumental analysis represents the critical mechanism for the selection and calibration of policy instruments (Centeno 1993: 313–314; Habermas 1970: 63–67). In this model, a continuous evaluation of key economic and social indicators provides the primary evidence that helps to define social and policy problems (Kingdon 1984: 95–99). Then, on the basis of scientific instruments and available data, decision-makers generate a policy proposal that they perceive to be the most efficient solution to attain a complex structure of collective goals. Reflecting the principles of this model, a combination of adverse macroeconomic scenarios and high public pension spending, not class struggles manifested in partisan pressures, determined the timing of the enactment of pension retrenchments in social-insurance countries. Further research regarding other welfare and fiscal domains would make it possible to map out the prevalence of the technocratic model of policymaking.

Appendix

Economic growth: Average percentage annual change in GDP per capita in US$ at current prices and PPP (reference year 2000) between t_{-3} and t_{-1} (OECD 2009).

Unemployment: Total unemployed as a percentage of the civilian active population at t_{-1} (OECD 2008a).

Public treasury balance: Annual surplus of the government primary balance as a percentage of GDP at t_{-1} (OECD 2009).

Deindustrialization: 100 minus the percentage of the population employed in the agricultural and industrial sectors over all the active-age population at t_{-1} (OECD 2008a).

Public pension spending: Average public spending on old-age pensions as a percentage of GDP at t_{-1} (OECD 2008c).

Trade openness: Sum of exports and imports of goods and services as a percentage of GDP at t_{-1} (World Bank 2006).

Foreign direct investment openness: Sum of direct investment in the reporting economy as a percentage of GDP and direct investment abroad as a percentage of GDP. The sum is for t_{-1} (IMF 2009: lines 78BED and 78BDD).

Elderly population: Percentage of the population aged 65 or older at t_{-1} (OECD 2008a).

Projected old-age dependency ratio in 2025: Expected percentage of the population aged 65 or older over the population aged 15 to 64 at t_{-1}. Based on biannual projections (United Nations 1982; several years) and interpolated values.

Left cabinet portfolios: Average percentage of cabinet portfolios held by members of left parties between t_{-4} and t_{-1} (Swank 2009).

Christian Democratic cabinet portfolios: Average percentage of cabinet portfolios held by members of Christian Democratic parties between t_{-4} and t_{-1} (Swank 2009).

Peer enactment: Number of retrenchments in other countries than *j* in t_{-1} divided by the kilometer distance between *j* and the country of event *i*. Data for distances between capitals are from Mayer and Zignago (2006). Peer enactment $= \sum[(1$ if event in country *i* in $t_{-1})/($distance between *j* and *i*$)]$.

Constitutional structure: Because the constitutional structure index of Huber, Ragin, and Stephens (2004) is unavailable for many countries and years, an alternative additive index was constructed with data from Keefer (2007). It includes three dimensions: presidentialism (0 if parliamentary, 1 if assembly elected president, 2 if presidentialist); bicameralism (0 if unicameral system, 1 if bicameral system); and decentralization (1 if states/provinces are constituents of the first chamber, 0 if not).

Legislative fractionalization: Index of legislative fractionalization of the party system according to Rae's formula at t_{-1} (Armingeon 2007).

Post-election year: Year after the elections for the first or second chamber or presidential elections (Keefer 2007).

EMU candidate: Dichotomous variable that differentiates (1) ten signatories of the Treaty on European Union (Austria, Belgium, Finland, France, Germany, Greece, Italy, Portugal, Spain, and Sweden) from other years for these countries and all years for other countries (0). For Belgium, Finland, France, Germany, Greece, Italy, Portugal, and Spain the value is 1 between 1992 and 1997. For Austria and Sweden the value is 1 between 1995 and 1997.

Table A.1 Descriptive statistics of the dependent and independent variables

	Mean	Standard deviation	Minimum value	Maximum value
Dependent variables				
All forms of retrenchment	.177	.382	0	1
Only retrenching measures	.123	.329	0	1
Mixed measures but retrenchments predominate	.054	.227	0	1
Independent variables				
Economic growth	2.004	1.482	–4.142	7.035
Unemployment	7.829	4.128	1.617	24.171
Public treasury balance	–.069	3.491	–9.935	13.526
Deindustrialization	75.934	5.422	59.338	84.671
Public pension spending	7.570	2.466	2.793	12.817
Trade openness	58.990	28.782	16.108	166.353
FDI openness	4.863	12.839	–0.427	182.127
Share of elderly population	14.547	2.120	9.100	19.482
Elderly dependency ratio in 2025	34.024	4.480	23.292	49.576
Left cabinet portfolios	37.624	35.457	0	100
Christian Democratic cabinet portfolios	14.760	24.345	0	100
Peer enactment of "any type of retrenchment"	1.457	1.388	0	6.638
Peer enactment of "only retrenching measures"	1.018	1.177	0	5.756
Peer enactment of "mixed measures by retrenchments predominate"	.440	.727	0	4.908
Constitutional structure	1.466	1.093	0	4.000
Legislative fractionalization	67.470	11.064	40.910	88.976
Post-election year	0.297	0.458	0	1
EMU candidate	0.154	0.341	0	1
N = 350				

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